



Review

A half century retrospective study of homicide–suicide in Geneva – Switzerland: 1956–2005

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ARTICLE INFO

Article history:

Received 6 November 2008

Received in revised form 7 May 2009

Accepted 9 September 2009

Available online 9 October 2009

Keywords:

Forensic autopsy
Homicide–suicide
Geneva

ABSTRACT

This study provides a retrospective review from the forensic files of the University Centre of Legal Medicine in Western Switzerland in Geneva, from January 1956 to December 2005. The studied homicide–suicide cases cover a period of half a century (50 years). As a rule, all police-ordered forensic examinations of violent death cases in the Canton of Geneva are conducted by the University Centre of Legal Medicine. All of the data necessary for an exhaustive retrospective study are thus readily available. During the period covered in this work, 228 homicides were perpetrated in Geneva. In 23 cases, the homicide was followed by the suicide of the aggressor. The 34 victims of these homicides (18 women, 1 man and 15 children) had either an intimate or filial relationship with the perpetrator. Most of the suicidal perpetrators were men that killed their spouses or intimate partners, with children as additional victims in some cases. Shooting was the most common means to kill, followed by stabbing. The majority of the victims and perpetrators were Swiss nationals. This retrospective study shows that in the last 50 years, homicide–suicide cases in the Canton of Geneva have been a rare and an episodic phenomena with a very variable frequency from 1 year to another.

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1. Introduction

Homicide–suicide (HS), also referred to as homicide followed by the suicide of the perpetrator, is defined as a form of fatal violence, during which an individual kills one or several victims, without the consent of one or more of these persons and then commits suicide,^{1–9} immediately or after a very short period of time following the act of hetero-aggression. It is a relatively rare^{2,5,7,9} but one of the most tragic and devastating events having a very strong impact on the public. In addition to the decedents' friends and family, it affects witnesses, death investigators, medical examiners, forensic pathologists and all other professionals who are supposed to notify and make sense of such tragic events.^{2,3,5–8,10}

In the majority of cases, HS occurs in a family setting. It may involve children, but most cases are characterized by a strictly spousal or intimate relationship between the perpetrator and the victim. In rare cases, the link is extra-familial.^{5,7} Firearms are the lethal weapon in most instances.^{1–4,6–9,11–13,15–17}

The objective of our study was to analyze and better characterize the victims and the perpetrators of all HS cases reported as such

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in a medico-legal setting and recorded at the University Centre of Legal Medicine (UCLM) in Western Switzerland in Geneva between 1956 and 2005, thus covering a 50-year period.

The Canton of Geneva is a relatively small part of Switzerland with a total territory of 282 square kilometers. It is a multicultural urban center, located at the extreme western part of Switzerland. Its population has doubled in the last 50 years, progressing from 227,590 inhabitants in 1956 (18% foreign population) to 440,982 inhabitants in 2005 (39% foreign population).

2. Material and methods

According to Swiss law, all violent deaths or deaths of undetermined origin must be reported to the police, which then decides if the body of the victim(s) must be transferred to an Institute of Legal Medicine for forensic examination. In Geneva, all unnatural death cases are normally examined at the UCLM and all victims of homicide are subjected to an autopsy. The data are thus readily available to carry out exhaustive retrospective studies. The only limitation in such studies may arise as a result of missing data: a death which has not been recognized as a homicide at the scene of the event itself.

Our study covers all deliberate homicide cases files recorded at the UCLM in the past 50 years, starting January 1, 1956 and ending December 31, 2005. We focused on all cases where homicide was

followed by the suicide of the aggressor after a very short delay (minutes or hours), totalling less than 1 day. The following parameters were examined for all cases identified as HS: the age and gender of the perpetrator and the victim(s), the relationship of the perpetrator to the victim(s), the nationality of the perpetrator and the victim(s), the methods of homicide and suicide, and any circumstantial information about the perpetrator. We excluded all cases where the aggressor only attempted suicide and all collective suicide cases, resulting from an obvious suicide pact. Thus, only cases without the consent of the victims were included in our work.

3. Results and discussion

A total of 228 deliberate homicides were committed in Geneva during the period of 50 years under consideration. This corresponds to an average of 4.5 homicides per year or a yearly rate of about 1.35 homicides per 100,000 inhabitants. In most cases, homicide victims were adult men (Table 1).

In 23 cases (10%), the homicides were followed by the suicide of the aggressor, yielding a total of 34 fatalities, because certain aggressors killed several victims. If children constituted only 11% of the victims of general homicide, their proportion rose to 44% in HS events. This may be explained by the mindset of the aggressor (usually the father or the mother): the killing of one's child or children may well result in the belief that one does not have the

right to live anymore, thus leading to suicide. Alternatively, the perpetrator may have egoistic and/or suicidal reasons for not standing the idea that any close relative may live after his or her death.

The majority of HS perpetrators were men (83% of the cases), with only four female aggressors (17% of the cases). Three of the female perpetrators killed only their children while one woman killed both her husband and her grandson.

In all HS cases, the victims knew their aggressor,^{1–5,7–20} and a family tie with an affective relationship could be demonstrated in most situations. Specifically, HS cases involved 13 spouses (38%), 15 children (44%), five intimate partners (15%) and one husband (3%), the latter being the only male victim (Table 2).

In eight homicide–suicide cases, several victims succumbed in a family disaster event. Thus, in two cases, the homicide targeted the two children and the spouse of the aggressor. In three other cases, the aggressor killed one child and his wife. In another instance, a woman committed suicide after killing her husband and her grandson. In two other cases, one mother took her life after killing her two children and another one after killing her three children.

Overall, homicide cases in the canton of Geneva were not very numerous, varying between 0 and 12 cases per year, with an average of about 4.5 cases by year²¹ within the last 50 years. This could be explained by Switzerland's way of life and that Geneva is a peaceful international city where multicultural traditions are respected and supported by the authorities as well as the population.²²

There was no significant pattern in the evolution during this period of time, and the rarity and variability of HS events is obvious (Fig. 1). It is also difficult to interpret the evolution of the incidence of this type of events.

We noticed two relatively long periods during which no HS cases were recorded. The first period lasted the first 7 years and the second period covered the last 8 years encompassed by the study (Fig. 2). While no rational explanation could be found for the first period, the second period might be explained in the context of the general evolution of homicides in urban centers. Indeed, in contrast to rural areas, there are fewer and fewer homicides in familial settings in cities. Instead, urban homicides occur more at work, and are linked to specific behaviours such as prostitution, drug dealing, etc. Of course, because the number of cases is quite small, it is not possible to draw any genuinely valid conclusion.

Compared to the numbers of female homicide victims in general, the proportion of adult female victims in HS cases was extremely high. Similarly, the gender distribution for juvenile HS victims was also biased towards the female gender, with nine girl victims and six boy victims (Figs. 3 and 4).

The age of the female adult victims varied between 19 and 76 years (average of 38 years), with the only man being 49 years

Table 1
Comparison between the number of victims of general homicide and victims of HS.

	Number of homicide victims in general	Number of victims of homicide–suicide	Number of suicidal aggressors
Men	121	1	19
Women	82	18	4
Children	25	15	0
Total	228	34	23

Table 2
Perpetrator and victim by relationship, number of incidents.

Relationship	Incidents
Husband against wife	8
Man against woman in intimate partnership	5
Husband against wife and child (ren)	5
Father against child	1
Mother against child (ren)	3
Wife against husband and grandson	1
Total	23

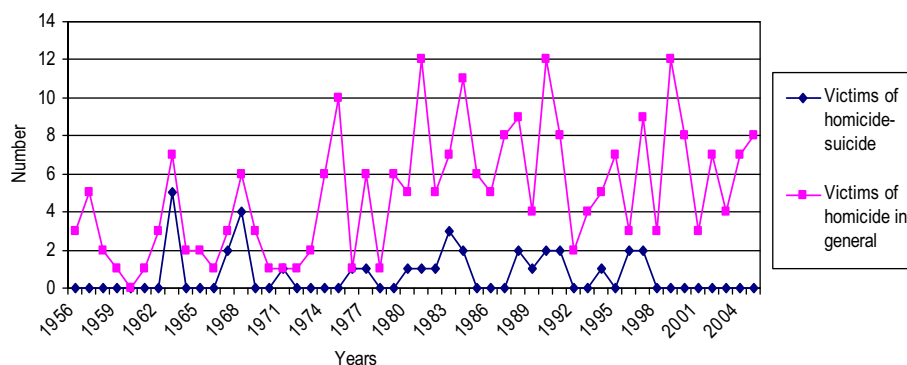


Fig. 1. Annual comparison between the numbers of HS victims and all homicide victims.

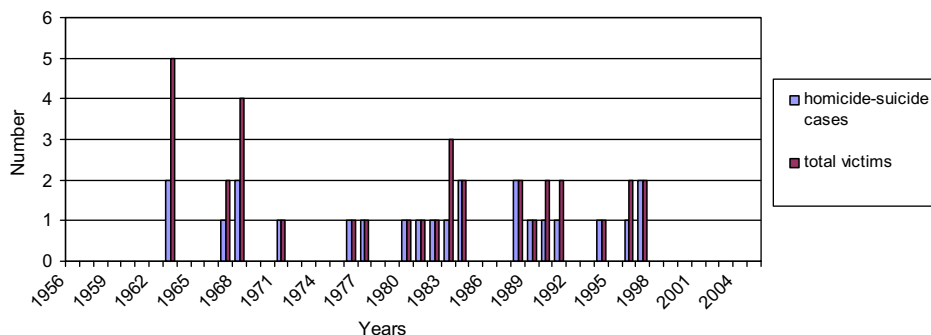


Fig. 2. Annual numbers of HS cases and number of homicide victims.

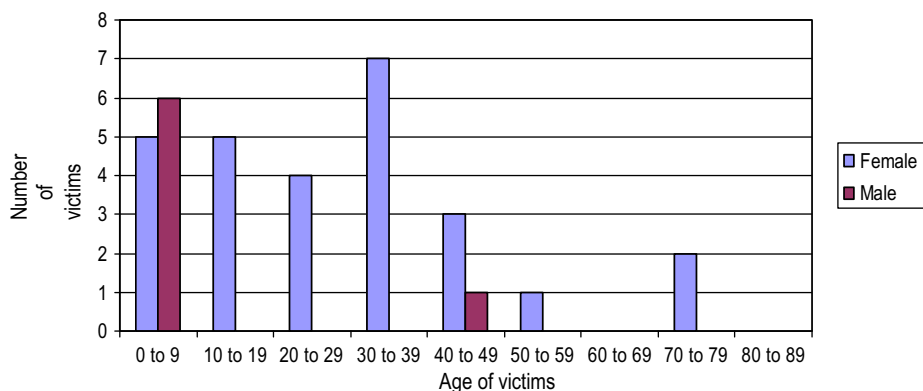


Fig. 3. Distribution of victims by gender and age groups.

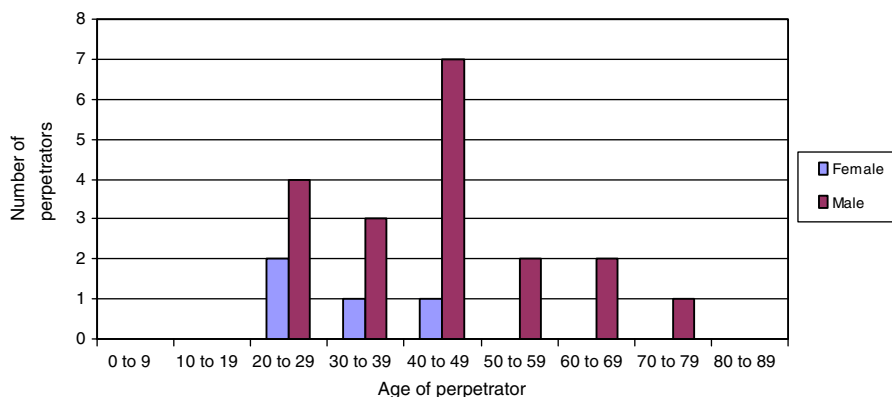


Fig. 4. Distribution of perpetrator by gender and age groups.

old. The age of juvenile victims varied between 4 months and 6 years for boys and between 1 and 15 years for girls. In the case of the aggressors, the average age was 43 years for men with a variation of between 23 and 74 years, which is a little older than the average age of the four women perpetrators (38 years). At the same time, we also observed that the victims were generally younger than their aggressors, a finding reported by others.^{1,3–5,8,10,14–19}

In most HS cases, the victims (65%) and perpetrators (57%) were Swiss nationals (Table 3), which could be explained by the fact that, compared to the population over the last 50 years, there is an overrepresentation of Swiss citizens, although in this period the foreign population has increased from 18% to 39%, without any change in the proportion of HS among these populations.

Another explanation may stem from the fact that a homicide in a family setting has little chance of remaining an unsolved crime. The familial aggressor, whose identity cannot be concealed, rarely

Table 3
Nationality of perpetrators and victims in HS cases.

Nationality	Perpetrator	Victim
Switzerland	13	22
France	2	4
Italy	3	3
Spain	2	2
Holland	1	3
Tunisia	2	0
Total	23	34

Table 4

Locations of HS cases.

Location	Victim	Perpetrator
Family residence	20	14
Residence of victim	2	1
Residence of perpetrator	4	2
Public road	5	3
Public place	3	3
Total	34	23

Table 5

Lethal means in homicide and suicide in HS events.

Lethal means	Used for homicide		Used for suicide	
	Male	Female	Male	Female
Fire arm	1	21	13	2
Fire arm and fall from height	0	1	1	0
Sharp instrument	2	6	2	0
Sharp instrument and drowning	0	0	1	0
Fire and/or carbon monoxide intoxication	0	3	1	1
Chemical intoxication	0	0	1	1
Total	3	31	19	4

attempts to flee. In contrast, a perpetrator of a homicide outside a family setting is rarely immediately identified. He or she is less likely to be found and may, as is the case in Geneva, easily cross the border and disappear in a foreign country which may or may not be his or her country of origin, but where it will be more difficult to carry out an arrest.

Unsurprisingly, in most cases, the place of death (Table 4) was the family residence (59% of the cases for the victim and 61% of

the cases for the aggressor). The majority of victims (51/57) were found together at the same location, with three victims transported in critical condition to the hospital prior to death and three other victims dead at different locations. These findings support the view that in most cases, there is a close temporal proximity (a few minutes or a few hours) between the act of homicide and the act of suicide.^{1,4,7,8,11,17–19}

The lethal weapon (Table 5) most commonly used in HS cases was a firearm, followed by stabbing by a sharp instrument. The same weapon was used for the homicide and the suicide for all but three cases. In the first case, a man intoxicated himself by carbon monoxide (CO) after shooting his wife and his daughter. In the second case, a man committed suicide by absorbing an organic phosphate derivate after stabbing his wife and her children. In the third case, a woman absorbed a lethal dose of chlormezanone (an anxiolytic and a muscle relaxant) after stabbing her children.

The reasons that cause HS events are often unclear. A variety of circumstances may contribute to these tragedies, ranging from relationship breakdowns to financial and health problems which may be dominated by hostility towards the victim or be completely devoid of apparent hostility.¹⁹ In most of the cases we examined, the events seem to have been the result of an outburst of violence stemming from some psychological or psychiatric disorder of the perpetrator and aggravated by specific circumstances such as obsession, jealousy, domestic violence in the context of a conflict with one's intimate partner, divorce and estrangement.^{9,13} Depression of the perpetrator was specifically referred to in 7 of the 23 events in our study, and psychosis was mentioned in four other cases (Table 6). In most of HS cases involving children, a divorce or some issue with parental authority or custody was established.

Table 6

Circumstantial information about the 23 perpetrators of HS events.

No. case	Year	Sex	Age	Psychic state	Alcohol	Victim(s)	Precipitating factor (cause)
1	1963	f	30	Psychosis	No	3 Children	Unknown
2	1963	m	38	Depression	No	Spouse + child	Family stress, dysfunctional event
3	1967	m	52	Unknown	No	Spouse + child	Unknown
4	1968	m	48	Unknown	No	Spouse + two children	Unknown
5	1968	m	27	Impulsive, psychosis	No	Intimate partner	Unknown
6	1971	m	23	Unknown	No	Intimate partner	Jealousy, imminent separation
7	1976	m	27	Unknown	0.5–0.6‰	Intimate partner	Imminent separation
8	1977	m	63	Depression	No	Spouse	Frustration in life
9	1980	m	40	Unknown	0.7–0.8‰	Spouse	Unknown
10	1981	m	30	Unknown	No	Spouse	Jealousy, imminent separation, chronic spouse abuse
11	1982	m	74	Unknown	No	Spouse	Altruistic act (illness of victim)
12	1983	m	41	Unknown	0.1–0.2‰	Spouse + two children	Unknown
13	1984	m	23	Depression	0.9–1.0‰	Son	2nd Child of the couple unwanted by the father
14	1984	m	48	Depression	0.3–0.4‰	Spouse	Jealousy, imminent separation
15	1988	f	34	Depression	No	Son	Failure in a love affair and tensions with her second husband, father of her son, financial problems, separation from her two children who were moved to her ex-husband
16	1988	m	41	Unknown	No	Spouse	Jealousy, imminent separation
17	1989	m	52	Psychosis, hallucination	No	Spouse	Unknown
18	1990	f	36	Psychosis	No	2 Children	Divorce, financial stress, strenuous relation with ex-husband, who gained custody of the children, access to children limited to 2 week-ends per month
19	1991	m	42	Unknown	0.6–0.7‰	Spouse + child	Infidelity, jealousy, imminent separation, death threats
20	1994	m	38	Psychosis	No	Intimate partner	Particularly violent and dangerous man, multiple internment of both partners in a psychiatric hospital, quarrels
21	1996	f	51	Depression	No	Husband, grand son	Frustration in life and incapacity to admit that her grandson can be restored to his mother
22	1997	m	62	Depression	0.3–0.4‰	Intimate partner	Jealousy, fear of imminent separation
23	1997	m	52	Unknown	No	Spouse	Infidelity, jealousy, imminent separation, death threats

HS is a traumatizing event causing a feeling of guilt that alienates all individuals that may be concerned, whether they are close relatives of victims or not. It also constitutes an emerging public health problem.¹⁹ Indeed, it is a form of fatal violence, during which an individual kills one or several victims and commits suicide, often leaving behind survivors (orphans, families) that are in a state of major confusion.

Effective targeted prevention of HC is possible if victims and perpetrators of intimate partner violence are made aware of increased HS risks following situational stressors.⁷ This requires multidisciplinary follow-up (by physicians, psychologists, social workers, etc.). In the long run, such an approach may lead to early detection of risk factors that contribute to what can be seen as the most traumatizing and catastrophic event that can take place in a family prone to excessive domestic violence.

Conflicts of Interest

None declared.

Funding

None declared.

Ethical Approval

No ethical approval needed.

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